

Liquid-Solids Circulation Fluidized Bed

A continuous Liquid-Solids Circulating Fluidized Bed (LSCFB) preferably for use as an ion exchanger consists of two fluidized bed columns, a fluidized bed adsorber (downer) operating in conventional fluidized bed mode for adsorption of ions of interest and a fluidized bed riser for desorption of ions (operating as a riser fluidized bed) to provide regenerated particles. Ion exchange particles circulate continuously between the riser and the downer i.e. the particles that have adsorbed ions in the adsorber pass from the adsorber (downer) to the desorber where they are regenerated and the so regenerated particles are return to the adsorber near the top of the adsorber column. The LSCFB can be used in processes for continuous recovery of the ions of interest.